said phase-shifting mask being utilized in conjunction with off-axis illumination such that radiation traverses said mask and impinges on said material.

~~16.~~ 6. A computer program product for controlling a computer comprising a recording medium readable by the computer, means recorded on the recording medium for directing the computer to generate at least one file corresponding to a phase shifting mask capable of transferring an image, including 0^{th} diffraction order and $\pm 1^{st}$ diffraction orders, onto a material, said generation of said file comprising the step of:

generating a phase-shifting mask comprising at least one feature, wherein said at least one feature includes halftoned, phase-shifted, transparent features; and

said phase-shifting mask being utilized with off-axis illumination such that radiation passes through said mask onto said material.

A1 cont.

~~17.~~ 7. The computer program product of claim ~~16~~ 6, wherein said at least one feature further includes semi-transparent features.

~~18.~~ 8. The computer program product of claim ~~16~~ 6, wherein said at least one feature further includes opaque features.

~~19.~~ 9. A computer program product for controlling a computer comprising a recording medium readable by the computer, means recorded on the recording medium for directing the computer to generate at least one file corresponding to a mask capable of transferring an image onto a material, said generation of said file comprising the step of:

generating a phase-shifting mask comprising at least two unattenuated, halftoned, phase-shift features having a width *w*, said features separated by a width substantially equal to *w*,

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wherein said mask provides an image including 0^{th} diffraction order and $\pm 1^{st}$ diffraction orders, when illuminated.

11. ~~20~~. A computer program product for controlling a computer comprising a recording medium readable by the computer, means recorded on the recording medium for directing the computer to generate at least one file corresponding to a mask capable of transferring an image onto a material, said generation of said file comprising the step of:

generating a phase-shifting mask comprising at least two halftoned, phase-shifted, transparent features having a width *w*, said features separated by a width substantially equal to *w*,

wherein said mask provides an image including 0^{th} diffraction order and $\pm 1^{st}$ diffraction orders, when illuminated.

12. ~~21~~. The computer program of claim ~~20~~ 11, wherein said at least two features further include semi-transparent features.

A1 cont. 13. ~~22~~. The computer program of claim ~~20~~ 11, wherein said at least two features further include opaque features.

10. ~~23~~. The computer program of claim ~~19~~ 9, wherein a focus-exposure process window for maintaining a predetermined resist line-width sizing of said mask is substantially common to an attenuated, phase-shift mask of a similar pitch.

14. ~~24~~. The computer program of claim ~~20~~ 11, wherein a focus-exposure process window for maintaining a predetermined resist line-width sizing of said mask is substantially common to an attenuated, phase-shift mask of a similar pitch.